

Hillary Fox. Evaluating the Web Presence of the Autism Society in the American South Using Direct Content Analysis. A Master's paper for the M.S. in L.S. degree. April, 2014. 39 pages. Advisor: Claudia Gollop.

This study uses a direct content analysis approach to evaluate chapter websites of the Autism Society among the southern United States. With the increasing prevalence of autism spectrum disorders (ASDs), having access to appropriate and correct information is vital. 37 websites across 17 states were evaluated based on standards inspired by previous research on the information needs of families and individuals affected by ASD. The results demonstrate that 4 websites provided content on an excellent level, 21 at a satisfactory level, 9 at a poor level, and 2 were unable to be evaluated. The discrepancy among websites and content for local chapters of the Autism Society suggests the need for an enforced standardization and redesign of chapter websites. This will ensure that searchers using this resource for information have an equal opportunity to resolving their information needs.

Headings:

Autism Spectrum Disorder

Information Needs

Internet Content

Content Analysis

EVALUATING THE WEB PRESENCE OF THE AUTISM SOCIETY IN THE
AMERICAN SOUTH USING DIRECT CONTENT ANALYSIS

by
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I Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder that affects an individual's social behaviors and ability to communicate ("What is Autism", 2013). It is referred to as a spectrum disorder because an individual can exhibit varying degrees of autism. Some individuals may show repetitive behaviors, or ticks, have difficulty interpreting social cues, or may communicate through nonverbal methods while some individuals may have milder symptoms. Although the causes are still unknown, ASD is the fastest growing developmental disability (Troy, Connolly, & Novak, 2007). In a 2012 report by the Centers for Disease Control and Prevention, the report found that the prevalence of autism has risen to 1 in 88 American children—a nearly ten-fold increase over the past 40 years ("About Autism", 2014; "What is Autism", 2013). The increased prevalence is largely due to a greater awareness about the disability as well as an evolving definition of diagnostic criteria. Not only are more parents having their child(ren) tested, but diagnostic criteria has been more generalized (Whelan, 2009). With the increasing prevalence of ASD, more families are searching for information and needing more assistance accessing information. One initiative that has supported families and professionals affected by ASD as they navigate the disorder is the Autism Society.

Founded in 1965, the Autism Society's mission is "to improve the lives of all affected by autism" by "increasing public awareness about the day-to-day issues, advocating for appropriate services for individuals across the lifespan, and providing the latest information regarding treatment, education, research, and advocacy" ("About the

Autism Society”, 2014). Now serving as one of the most reputable ASD agencies in the United States, the Autism Society provides reliable and current information on the aforementioned facets of the disability. This includes information on symptoms and causes, including addressing misconceptions about ASD, therapies related to ASD, and current research. The organization also provides resources to support parents as they advocate for their child’s education and healthcare as well as in-depth information on child-rearing practices across the lifespan.

While the Autism Society provides extensive information to help individuals navigate ASD and has state-level chapters across the country, there is a discrepancy with how each state represents the Autism Society. By specifically focusing on the American South, this paper will evaluate how well each state fulfills the mission of the Autism Society as well as the expressed information needs of users. Evaluative standards were developed based on previously conducted studies that examined the information needs of families affected by ASD and the mission statement provided by the Autism Society’s national website. This study consists of a content analysis on chapter websites on the state-level in order to evaluate how well each state meets the goals of the national Autism Society and meets the information needs of families and individuals affected by ASD.

This work is significant because it elucidates the need for a universal set of standards for Autism Society chapters’ website content. Requiring each chapter to provide the same information across each state will ensure that individuals are getting the same information. With the increasing prevalence of ASD and consequently, a higher demand for information about the disorder, this study could assist the Autism Society in redesigning and standardizing web content on a more local scale.

II Literature Review

Information Access and Barriers

The growing prevalence of autism has made ASD the quickest growing developmental disability (Tway, Connolly, & Novak, 2007). The increase in diagnosis is the result of more awareness about the disorder, causing more families to have their child tested (Whelan, 2009). Prevalence has also increased due to revisions of diagnostic criteria where the criteria now covers a broader range of symptoms (Matson & Kozlowski, 2011; Whelan, 2009). With the growing presence of ASD, more families and individuals affected by the disability are in need of information more than ever. As a result, there is a greater need for an information support system. One popularized way for gathering such information is through the Internet.

The Internet serves as a beneficial tool for helping searchers find information on this topic. Web searching allows for convenience and anonymity among users (Tway, Connolly, & Novak, 2007; McConkey, 2003). Furthermore, services specifically related to autism can be more easily updated and tailored to specific regions if available online (Tway, Connolly, & Novak, 2007). Although utilizing the web for information gathering can be advantageous, the Internet is infinite with the amount of information it can provide as well as the number of resources available. This is problematic for users who are too overwhelmed to sift through the information or who do not have the information literacy to navigate through the content; these issues contribute to two phenomena known as information poverty and information overload.

Britz (2004) identifies information poverty “as the situation in which individuals and communities within a given context do not have the requisite skills or ability to obtain

efficient access to information, interpret it, and apply it appropriately” (193).

Complimenting this behavior is information overload. Information overload occurs when an individual is presented with so much information that he or she cannot analyze the content, causing the person to search for more information (Goulding, 2001). In the end, both groups are unable to take advantage of the content available to them, making the information useless. These information seeking behaviors highlight a recurring issue for many families seeking ASD information. Standardization of content across websites from the same organization can help resolve some of these issues because all the information will be located in one place and will be consistent across websites. This will help eliminate confusion and stress among those using their local Autism Society chapter for ASD information.

Identifying Information Needs

When reviewing the literature addressing the information needs of those affected by autism spectrum disorder, multiple information themes and information seeking experiences emerge. The first theme deals with the type of information parents or caregivers typically search for, including the emotional process behind the search. The second theme deals with the preference of the information format. Overall, the literature depicts that individuals affected by ASD have common information needs and undergo similar emotional search processes.

In a 2011 survey of parent’s with recently diagnosed children, Patterson and Smith (2011) found that majority of parents “reported feeling ‘clueless to start’” (p. 335). Earlier survey results in a study by Dymond, Gilson, & Myran (2007) found that a

common information barrier among parents of recently diagnosed children was accessibility. Out of the survey, the majority of parents reported that information was not readily available or easily accessible (Dymond, Gilson, & Myran, 2007, p.145). In most of these cases, parents or caregivers were not aware of the services available to them (Dymond, Gilson, & Myran, 2007). Although the findings in these studies agree with one another and represent a large sample size (at least $n=300$), neither of the articles discussed outreach initiatives performed in each study's community. Without this information, it is unclear as to whether searchers experienced information poverty because little information was available to them or if they were uninformed about the resources they could use.

The type of information sought after is consistent through the resources reviewed. McConkey (2003) and Fain (2009) observed the searching habits of families and found that out of the sample, many participants wanted information on confirming their child's diagnosis, the causes of autism, symptoms, therapies and treatments available, what to expect during the diagnostic phase (from the child and the physician), where to find specialists, and information on how to support their child's education. Mulligan, Steel, MacCulloch, and Nicholas (2010) also identified through parent focus groups that parents typically appreciated resources that served "as a tool to educate and dispel spurious myths about ASD" (p. 119). These information needs are reiterated through the design of the national Autism Society website. Not only does the Autism Society organize its information by headings that address these topics, but they also provide frequently asked questions addressing these information needs. While parents may have questions that are

specific to their child's needs, the thematic focus of the information most sought after appears to be consistent among information seekers.

The platform that parents obtained information through is consistent among recent literature. McConkey's (2003) survey of parents' information needs found that parents of children and parents of adult persons opted for books/leaflets as well as the Internet. Out of all the participants in the sample, less than 25% opted for group meetings and office visits (McConkey, 2003). Among the literature examined, most parents tend to rely on the Internet for their information needs. Families using web-based support said they preferred the internet because it was virtually free, it provided privacy, and the web provides access to information that may not have been mentioned in by a physician or specialist (Zaidman-Zait & Jamieson, 2007; Tway et al, 2007). When asked about how they perceived the quality of support via the web, parents felt that e-mail and online support groups were a valuable and convenient alternative to face-to-face interaction (Huws, Jones, & Ingledew, 2001; McConkey, 2003; Zaidman-Zait & Jamieson, 2007).

After examining the preferred methods for accessing information and the type of information retrieved, few studies addressed information outreach strategies. In summarizing Ruef and Turnbull's (2001) study, Dymond, Gilson, and Myran (2007) argue that "responsibility for disseminating this information should be shared among schools, community service organization, and local and state governments, and it should be provided through multiple methods to reach a diverse population of parents and other caregivers" (p. 145). Based on the consistency of information needs of surveyed parents affected by ASD and the barriers presented through information poverty and overload, the need for a resource that provides all of this information in one place is crucial. While

there are many autism resources that parents could use, the availability of the Autism Society on local, state-level chapters makes the organization an ideal resource for finding ASD information.

III Methods

Overview and Justification

This study is a content analysis of the website content on the Autism Society's chapters in the southern United States. The purpose of this study is to examine how well each state's website(s) aligns with the information needs of families affected by ASD, as expressed in the literature review, and the mission of the Autism Society as a whole. According to Babbie (2009) "Content analysis is the study of recorded human communications. Among the forms suitable for study are books, magazines, webpages, poems, [etc.]" (p.338). Furthermore, the methodology to evaluate the websites utilizes a direct content analysis approach. Hsieh and Shannon (2005) define a direct content analysis as "using existing theory or prior research, researchers begin by identifying key concepts or variables as initial coding categories. Next, operational definitions for each category are determined using the theory or prior research" (p. 1281). In this context, direct content analysis is appropriate because it allows for identifying themes among Autism Society websites based on the information needs of families as identified in prior research. Through this prior research a set of qualitative standards was created. The ability of each website to adhere to these standards was evaluated based on a poor, satisfactory, or excellent ranking; definitions for these rankings are provided later in the methodology.

Study Site

This study examines Autism Society chapter websites on a state-level for the American South. According to the U.S. Census Bureau, the South is comprised of 17 states: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. (“Census Regions and Divisions of the United States”, www.census.gov). Autism Society chapters were provided by Autism Society Affiliates Map (<http://www.autism-society.org/about-us/affiliates/>).

Based on the information provided by the Autism Society Affiliates page, several states do not have an affiliation with the organization. These states include Arkansas, Mississippi, Oklahoma, and Delaware. While this project focuses on analyzing the web presence of the organization in this geographic region, these states were ineligible for analysis. The Autism Society Affiliates page also demonstrates that several states have multiple chapters within each state. No further information was provided on why certain states have multiple chapters.

Developing Standards

The framework for developing standards to evaluate the Autism Society’s chapters’ websites was based on the mission of the Autism Society, as stated on their national website, and the information needs elucidated by previously conducted research on this topic. The following quotation from the “About the Autism Society” (2014) page reflects the organization’s mission to improve the lives of those affected by ASD:

“We do this by increasing public awareness about the day-to-day issues faced by people on the spectrum, advocating for appropriate services for individuals across the lifespan, and providing the latest information regarding treatment, education, research and advocacy.” (www.autism-society.org/about-us/).

The national website for the Autism Society demonstrates this mission by providing current information including a definition and diagnostic criteria for autism, an overview of different treatments and therapies for ASD, a clarification about ‘mythology’ related to autism, educational resources, health care resources, child rearing suggestions, and information on supporting an adult with ASD. Furthermore, the Autism Society provides all of this information in Spanish. When developing standards to evaluate local state chapters, the information and features provided on the national Autism Society website were included as ideal content for a local chapter to have.

Based on the information provided in the research articles, the typical information needs of users seeking content about autism agreed with most of the information topics provided on the national site. The research articles also highlighted the desire for support groups and social media platforms for seeking informational and emotional support.

The Standards: Defining Evaluative Criteria and Measurement of Criteria

Criteria for evaluating each Autism Society website was divided into three broad categories: Web Presence and Accessibility, Information and Resources, and Information on Advocacy and Outreach. Web Presence and Accessibility refers to how users are able to view and access the website. This category reflects the structure and design of the site. Having a website that is user-friendly and navigable is important for disseminating any type of information because if a user cannot access the content on the page, the information is useless. Information and Resources refers to information related

specifically to ASD and the state's affiliation with the Autism Society. Standards in this category reflect the information needs expressed in previous research as well as information topics on the national Autism Society's website. Information on Advocacy and Outreach refers to standards dealing with how well the website supports the emotional needs of a user (through support group information) as well as provides additional resources on other autism agencies, current research, and printable materials (such as fact sheets, brochures, or pamphlets). Each category is broken down into questions that reflect the information needs identified in the literature as well as goals of the Autism Society. Questions are answered on a Poor (P), Satisfactory (S), or Excellent (E) scale. The following list is of the questions that were created and used to evaluate each website. Operational definitions for how each question would be answered using the P, S, E scale are provided. Also note that some questions are answered with a "Yes" (Y) or "No" (N). When compiling the results, N was translated to a P and Y was translated to a S.

A. Web Presence and Accessibility

- I. Does the state have an Autism Society website?
 - N: No website
 - Y: Has a website
- II. Is the website mobile friendly?
 - N: No website/no web
 - Y: Web site available on a mobile app
- III. Does the website engage with social media platforms?
 - P: No

- S: Includes methods of linking to social media (at least one)
 - E: Engages with more than one social media platform (more than one)
- IV. Is the website regularly maintained? Is there proof of this?
- P: No indication of maintenance; outdated information (i.e. events from 2013 are still listed or there no current event information)
 - S: Web content has been updated within the year
 - E: Web content indicates recent updating (i.e. within the past month or date and time of updated listed in the footer)
- V. Is information presented with clear, logical headings? (Is information categorized under appropriate pages? For example, you would not expect to find diagnostic information under a page about support groups.)
- N: Lack of headings and organization
 - Y: Headings accurately represent the content within each heading
- VI. Is information provided in another language?
- P: Information not provided in another language
 - S: Information available in at least one other language
 - E: Available in multiple languages

B. Information and Resources

- Does the website have contact information for the organization? (This includes information such as e-mail addresses for the chapter and/or chapter members, names of chapter members, physical address of chapter location, etc.)
 - P: No contact information

- S: Some contact information, such as e-mail address or phone number
- E: More extensive contact information such as, name, address, e-mail, and phone number
- Does the website contain information on the following information topics?
 - What is ASD?
 - Diagnostic information
 - Treatment information
 - Therapies available
 - Child rearing suggestions
 - Research/Mythology distinctions:
 - Educational Resources (i.e. how to advocate for your child's IEP)
 - Advocating for a child's health care
 - This includes information on specialists and guidance on selecting a physician
 - P: Missing information on over half of these categories
 - S: Contains information on at least half of these categories
 - E: Includes information on all these categories as well as local resources related to these categories
- Are there resources available that discuss services for adults? This question examines information that specifically is intended for adults with ASD.
 Answering this question requires comparing the amount of information on adult services with the information available on child services.
 - P: No adult service information available

- S: Some adult service information is provided/less than half of the amount of the child service information
 - E: Provides a nearly equal, if not equal, amount of adult service information when compared to child information
- Does the website provide suggestions for further information? This includes recommended readings, such as books, magazines, or articles, or other websites with ASD related information.
 - P: No
 - S: Lists a few items (3 or less), but the collection is limited.
 - E: Provides a wide range of resources (4 or more) as well as information on how to obtain these resources

C. Information on Advocacy and Outreach

- Does the website provide information on other autism agencies locally or nationally? This may also include suggesting agencies through other ASD websites.
 - P: No
 - S: The organization endorses at least one other organization
 - E: Website endorses more than one other organization
- Does the website provide information on support groups?
 - P: No
 - S: Lists one or two support group that users can attend

- E: Provides information or links to support groups; provides information for areas that offer support groups if a support group is not offered by the AS branch being examined
- Does the website share current research about autism?
 - P: No
 - S: Provides one or two articles of current research
 - E: Provides multiple (3 or more) information resources on current literature and information on how obtain the research (i.e. a link to the study)
- Does the website offer printable pamphlets or brochures? This includes printable materials about the prescribed state's Autism Society chapter or a list of resources the user can consult.
 - P: No information provided or the information is incorrect/out of data
 - S: Provides pamphlet/brochure on the organization with current information
 - E: Provides current information on the organization as well as other pamphlets to ASD related agencies.

Evaluating the Website as a Whole

When evaluating the websites, only states with a “Y” answer to the first question will be evaluated; if a state does not have an Autism Society website it is implied that they would receive a poor score on all following criteria. Overall, this leaves 13 standards that will be used to evaluate each website.

Although each component of the standards is evaluated on an individual basis, a grading system to evaluate the website as a whole was developed. A website is considered poor (P) if the majority of the answers to the evaluation questions are a “No” or “P”. Majority in this case is defined as a greater number of Ps than the combined total of S and E grades. A website is satisfactory if at least half (greater than or equal to 7) of the standards is answered with an S. For a website to even be considered for an S grade, the website must contain information on all the information topics or provide a link to a website that includes information on all the information topics proposed under the Information and Resources criteria. If information from the Information Topics question are linked to another resource, it will be indicated in the evaluation. A website will receive an Excellent (E) grade if the majority of answers to the questions are an E.

However, there are special considerations when evaluating the website in its entirety. Since this project places heavy emphasis on providing ASD-related information, the information topics question holds more weight than some of the other standards. When evaluating the entire website, this means that websites with an S score on information topics cannot be considered for an E status. Furthermore, if a website receives an E for information topics, it will not receive an overall P score. Finally, if the website receives the same number of E and S scores in the evaluation questions and their sum outnumbers the P scores for questions, the website is marked with an overall S grade.

IV Results

Profile of Autism Society Presence

After examining the Autism Society Affiliates website, 13 of the 17 states have websites. Of these states, Arkansas, Mississippi, Oklahoma, and Delaware do not have an affiliation with the Autism Society and thus, were not included for further analysis.

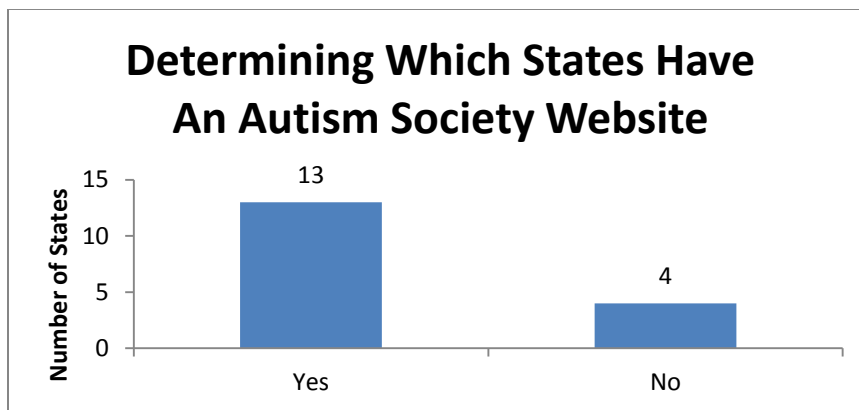


Figure 1. Examination of the Autism Society Affiliates page revealed that 13 states in the south have affiliation with the Autism Society while 4 do not.

Between the 13 states that are affiliated with the Autism Society, there are a total of 37 Autism Society websites. The states with the most number of websites include Florida, with 7 chapters, and Louisiana and Maryland, each with 5 chapters. Figure 2 provides a visualization of the number of chapters within each state. When examining the Autism Society Affiliate page for information on why some states have more chapters than others, no justification was provided.

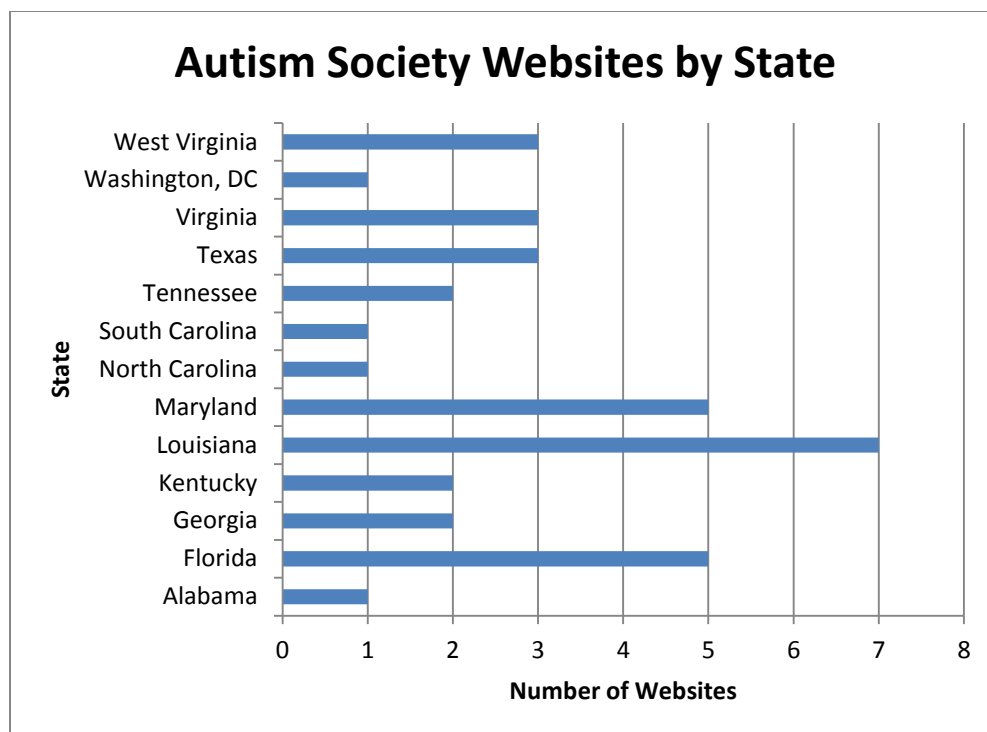


Figure 2. The number of Autism Society chapter websites by state, organized alphabetically.

Evaluating Web Presence Standards

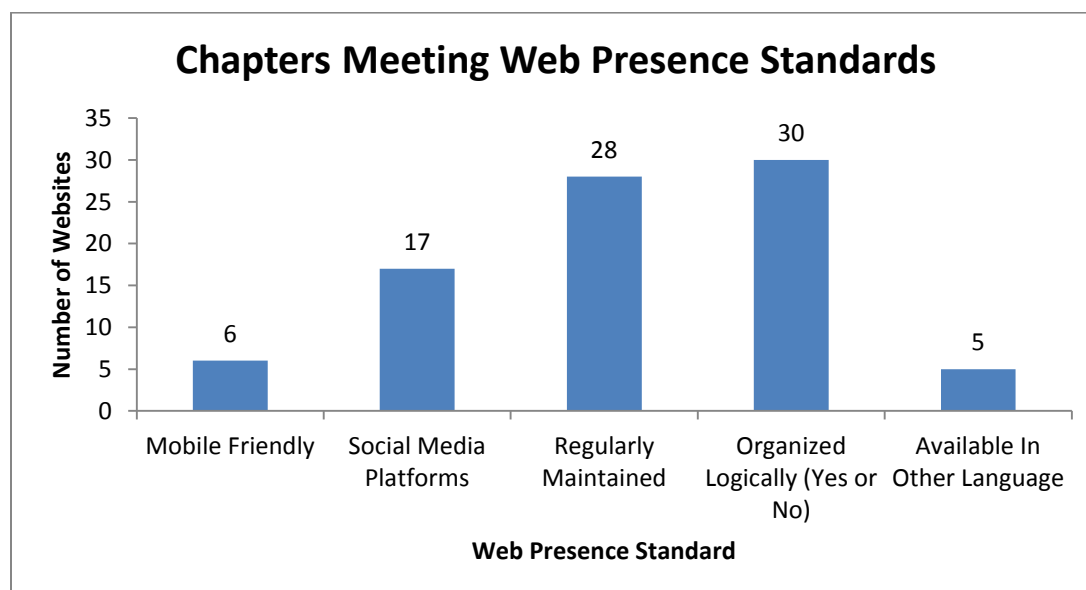


Figure 3. The number of websites/chapters receiving a S, E, or Y score in the Web Presence category.

After assessing how each website meets the standards in the Web Presence category (Figure 3), 6 websites were available in a mobile app, 17 used at least one social media platform, 28 showed signs of regular maintenance, 30 had information that was appropriately and logically organized, and 5 provided content in a language other than English. Of the standards, the majority of websites did not provide materials in another language and did not provide a mobile app for their website. The Autism Society Middle Tennessee and Autism Society Miami/Dade Office websites were excluded from evaluation because the advertised links for these sites were dead. For a full table of each website's score in the different web presence categories, see Appendix A, Table A.1

Evaluating Information Topics and Resources

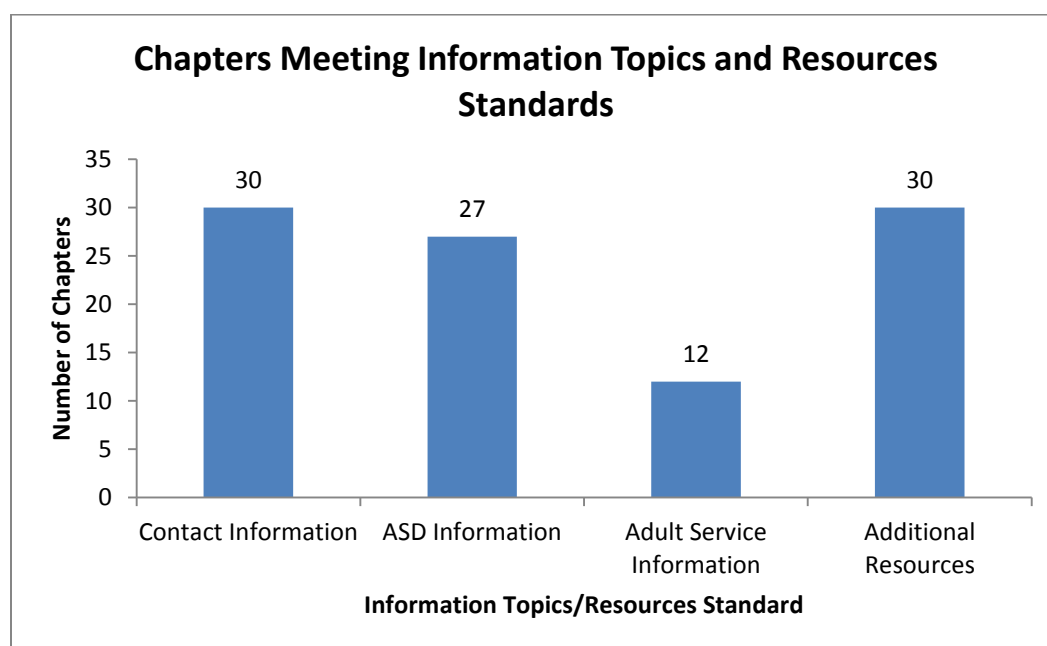


Figure 4. The number of websites receiving an S, E, or Y score for in the Information Topics and Resources category.

After assessing how well each website complies with the Information and Resources standards, 30 provide contact information at an at least satisfactory level, 27

contains information on ASD topics, 12 specifically address adult services, and 30 websites suggest other resources or websites for further information. Again, two websites were not considered in this evaluation because active links to those chapters were not provided. When considering the ASD Information standard, many websites only provided a satisfactory level of the information requirements. Many of the websites meeting the ASD information standard did not actually contain information within the chapter website but rather provided links to other websites, mainly the national Autism Society website, that fully addressed all of the ASD information topics. For a full table of each website's score in the different web presence categories, see Appendix A, Table A.2

Evaluating Information on Advocacy and Outreach Standards

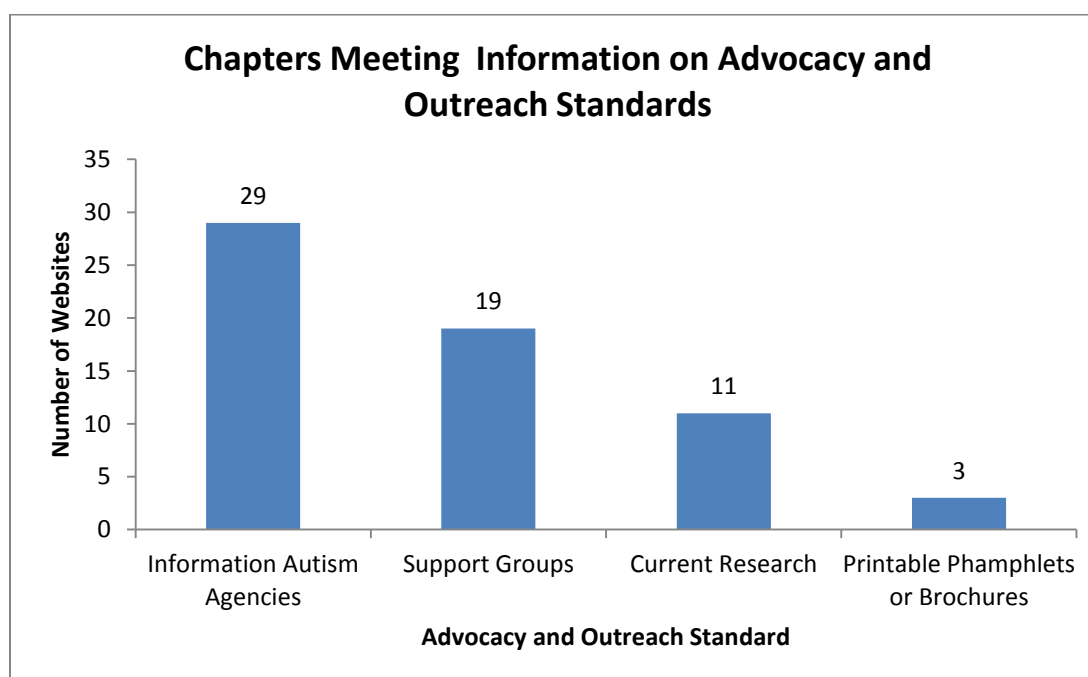


Figure 5. The number of websites receiving an S, E, or Y score for standards in the Information on Advocacy and Outreach category.

Once each website in this category was evaluated, 29 websites provided information on other autism agencies. These agencies included organizations similar to Autism Society,

such as Autism Speaks, or local organizations that offered services specifically catered to ASD. Additionally, 19 websites contained information on support group meetings or support blogs, 11 included current articles on ASD related research or links to organizations with information on current research, and 3 websites provided some type of printable brochure or pamphlet related to the prescribed chapter's website. The latter usually included a handout that contained contact information as well as an introduction to the chapter and a brief list of services they offered. Similar to the other two categories, two website were excluded from evaluation since no functioning URL was provided. For a complete table list of each website's score for standards in the category, see Appendix A, Table A.3.

Overall Scores and Trends

After assessing each standard, an overall grade was given to each website. Out of the 37 websites advertised, 9 received a poor grade (P), 21 a satisfactory grade (S), 4 an excellent score (E), 2 were unable to be evaluated, and 1 website for a chapter in West Virginia redirected users to the Autism Society West Virginia chapter. The two websites that were ineligible for evaluation were the Autism Society Middle Tennessee, TN and the Autism Society Miami Dade Office, FL; the Autism Society Affiliates page advertised these chapters but provided a dead link to each chapter.

Autism Society Affiliate by State	Overall Ranking	Autism Society Affiliate by State	Overall Ranking
Texas		Florida	
Autism Society El Paso	P*	Autism Society Broward County	P **
Autism Society Greater Austin	S*	Autism Society Emerald Coast Society	P **
Autism Society Texas Gulf Coast	S	Autism Society Florida	P **
		Autism Society Miami Dade Office	Not Applicable
Louisiana		Autism Society Palm Beach/Martin County	S*
Autism Society Acadiana	E		
Autism Society Bayou	S*	South Carolina	
Autism Society Greater Baton Rouge	P*	Autism Society South Carolina	E
Autism Society New Orleans	S*		
Autism Society Louisiana State	P*	North Carolina	
Autism Society Northwest Louisiana	S*	Autism Society North Carolina	E
Autism Society Southwest Louisiana	S*		
Alabama		Virginia	
Autism Society Alabama	S*	Autism Society Central Virginia	S*
		Autism Society Northern Virginia	S*
Tennessee		Autism Society Tidewater	S*
Autism Society Eastern Tennessee	S*		
Autism Society Middle Tennessee	Not Applicable	Maryland	
		Autism Society Baltimore-Chesapeake	S*
Kentucky		Autism Society Frederick County	P*
Autism Society Bluegrass	S*	Autism Society Harford County	S*
Autism Society Kentuckiana	S*	Autism Society Howard County	S*
		Autism Society Montgomery County	S*
Georgia		Washington DC	
Autism Society Greater Georgia	E	Autism Society Washington DC	S*
Autism Society North Eastern Georgia	P **		
West Virginia			
Autism Society River Cities	P*		
Autism Society West Virginia	S*		

Figure 6 . Based on the individual evaluations for each component of the standards each website received an overall score. Overall scores with an asterisk () indicate that information from the Information Topics standard were linked out to another site. Overall score with a double asterisk (**) indicate that no information on subjects in the Information Topics standard was covered.*

When comparing the figures together, six standards have less than a 50% compliance rate. The majority of websites do not have a mobile app for the website, use social media platforms to distribute information, provide information in another language, offer information specifically geared towards adult services, provide current

research on ASD, or offer printable resources about the prescribed Autism Society chapter. Of these standards, the ones lacking the most presence among Autism Society chapter websites were the mobile app component (available on 6 websites), the availability of content in another language (available on only 5 websites) and the printable materials (available on 3 websites.)

V Discussion

Significance of the Scores

As noted in Figure 6, a sweeping majority of the Autism Society chapter websites received a satisfactory score. This was because nearly every website linked out their information. That is, the local chapter's site suggested that users visit the national website to obtain more information from the various Information Topics outlined in the standards. In the instance of the Texas Gulf Coast chapter, the site contained a majority of the Information Topics within the site but required the user to dig through various subpages in order to find the information; this coupled with other variables earned the site an S.

Websites that received a P fell into two categories: those that did not contain any of the Information Topics and those that earned a majority of Ps in the other categories. In most of these cases, the websites did not even endorse the national Autism Society site as a place for resources and further information. This was the circumstance for 3 of the 5 Floridian chapters and 1 of the 2 Georgian chapters. Otherwise, the websites that received a P at least linked users to the national site.

In both of these instances, the information was not readily available. Directing users to a new site for further information is problematic for the information gathering process. Each time a searcher is sent to a new site, he or she would have to familiarize

themselves with the new site's format and then learn to navigate to the information they were initially searching for. Having to do this can be time consuming and overwhelming for the user, forcing them to encounter information overload and then information poverty. When users are unable to navigate the information presented to them, whether it be because there is too much information to digest or because the user does not possess the literacy skills to navigate the information, he or she is unable to take advantage of the content provided to them. In the end, the user is not able to appropriately use the information provided to them, forcing them to remain in a state of information poverty. In the case of the Autism Society, redirecting users to new and potentially unfamiliar sites can hinder the propagation of ASD related information, leaving families or individuals affected by the disorder in the dark.

The 4 chapters to receive an E score were Acadiana, LA, Greater Georgia, North Carolina, and South Carolina. This score was influenced by the extensive amount of information given about the Information Topics as well as the amount of other informational tools provided, such as support groups, links to other agencies containing information, and current research. What distinguishes these sites from most of the S sites is that information was provided within the site, allowing the user to stay in the same domain. Given the literature has identified searching for ASD information as an overwhelming and stressful process, particularly after recently receiving a diagnosis, providing solutions to the most common information needs in one place alleviates the emotional burden of searching (Patterson and Smith, 2011). As a result, users can focus on synthesizing and understanding the content rather than becoming emotionally spent on the information gathering process.

These sites also marked the few that delivered information specifically related to adult services. Many of the other sites either generalized ASD related services, leaving the user to assume that adults were included, or listed a single adult service. The majority of the websites focused specifically on children and information related to the early stages of diagnosis, usually occurring with toddlers. Few directly addressed the needs of adults with autism.

Availability of information through a different language was a component lacking on many sites. Of the sites that received the highest overall grade, with the exception of Greater Georgia, all of them contained information and resources for Spanish speaking users. Providing information in Spanish enables information to penetrate an audience that might not have otherwise received the information. When examining research in this area, there is a literature gap that addresses autism and Spanish speaking services. The national Autism Society acknowledges that users in this demographic still need information on ASD by providing an extensive amount of resources in Spanish. However, with local chapters not providing information in a dominant language in the South, it gives the impression that ASD support is only limited to English speaking communities.. Additionally, of the sites offering information in another language, Greater Austin provided information in Spanish as well as allowed users to use Google's translation tool. Using an automatic translator for any type of information poses risk that a direct translation will be made, allowing for the information to literally become lost in translation.

Limitations

This evaluation is limited in that it assumes the Autism Society is a popular resource for ASD related information in every state. Although one of the standards in the evaluation addresses the presence of other autism agencies, this study does not examine how frequently used the Autism Society is within the study area. It is possible that ASD information and services are provided for different agencies and varies locally. When considering the states that did not offer an Autism Society website, such as Oklahoma, Arkansas, and Delaware, no further examination of other autism agencies in those states was performed. Although information seekers may not be using Autism Society resources, there is a high probability they are able to get their information from another internet resource.

Another way this study is limited is that it assumes that all searchers utilizing the Autism Society have basic internet searching skills. In analyzing the digital divide in the United States, Warf (2013) found that the South is the least penetrated by internet access compared to the rest of the country. Although roughly 70% of the South has internet access in the home, that still leaves 30% of the population where accessibility is unknown (Warf, 2013). This statistic suggests there is a portion of the population that is getting their information through mediums other than the Web. Furthermore, this group without internet access may not have the information skills necessary to navigate the Internet if they were to seek out information.

VI Conclusion

Performing an evaluation of the Autism Society's web presence using direct content analysis revealed 25 out of 37 websites met the minimum standards for providing appropriate and accessible information. Of these 25, only 4 demonstrated content at an

excellent level. These results highlight a discrepancy among the presence of the Autism Society across state lines. Based on the content differences between chapter websites, searchers seeking information on ASD through local Autism Society websites do not have equal accessibility to information. Some local chapters provide all of the appropriate content addressed in the literature review while some websites redirect searchers to a new website without any navigability guidance. There are even some sites that do not provide the searcher with information beyond a phone number.

These discrepancies highlight the need for the redesign and implementation of standards for all Autism Society chapter websites. While each chapter's website may have a unique appearance, it is necessary that all websites contain the same information and are similarly structured. This will save the user time because he or she will not have to familiarize themselves with a new site whenever they are redirected to a new domain. This redesign will ensure that communities sponsoring the local Autism Society chapter are providing the same information and same content. Furthermore, if the standards used in this study are successfully implemented, a larger population will be able to access ASD information through the Autism Society. Enforcing these standards will not only enable different communities to have access to the same information, but providing the information in Spanish will enable an even larger population to take advantage of ASD related information.

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Appendix A.

Table A.1: Individual website scores for categories in the Web Presence category.

Standards in this category include having a mobile app, utilizing social media, regular maintenance, logical organization, and language availability.

Autism Society Affiliate by State	Mobile Friendly (Yes or No)	Social Media Platforms	Regularly Maintained	Organized Logically (Yes or No)	Available In Other Language
Texas					
Autism Society El Paso	N	P	P	N	P
Autism Society Greater Austin	N	P	E	Y	E
Autism Society Texas Gulf Coast	N	P	P	Y	P
Louisiana					
Autism Society Acadiana	N	E	E	Y	P
Autism Society Bayou	N	E	E	Y	P
Autism Society Greater Baton Rouge	N	P	P	N	P
Autism Society New Orleans	N	E	S	Y	P
Autism Society Louisiana State	N	P	S	N	P
Autism Society Northwest Louisiana	N	S	E	Y	P
Autism Society Southwest Louisiana	N	P	P	Y	P
Alabama					
Autism Society Alabama	N	E	E	Y	P
Tennessee					
Autism Society Eastern Tennessee	N	P	E	Y	E
Autism Society Middle Tennessee					
Kentucky					
Autism Society Bluegrass	N	E	E	Y	P
Autism Society Kentuckiana	Y	S	E	Y	P
Georgia					
Autism Society Greater Georgia	Y	E	E	Y	P
Autism Society North Eastern Georgia	N	P	P	Y	P
Florida					
Autism Society Broward County	N	E	E	Y	P
Autism Society Emerald Coast Society	N	S	E	Y	P
Autism Society Florida	N	P	S	Y	P
Autism Society Miami Dade Office	NA	NA	NA	NA	NA
Autism Society Palm Beach/Martin County	N	P	S	Y	P

South Carolina					
Autism Society South Carolina	Y	E	E	Y	S
North Carolina					
Autism Society North Carolina	Y	E	E	Y	E
Virginia					
Autism Society Central Virginia	Y	E	E	Y	E
Autism Society Northern Virginia	Y	S	E	Y	P
Autism Society Tidewater	N	S	E	Y	P
Maryland					
Autism Society Baltimore-Chesapeake	N	P	E	Y	P
Autism Society Frederick County	N	P	S	Y	P
Autism Society Harford County	N	P	S	Y	P
Autism Society Howard County	N	S	E	Y	P
Autism Society Montgomery County	N	P	E	Y	P
Washington DC					
Autism Society Washington DC	N	P	E	S	P
West Virginia					
Autism Society River Cities	N	P	S	S	P
Autism Society West Virginia	N	E	S	E	P

Table A.2: Individual website scores for standards in the Information Topics/Resources category. Standards included providing contact information for the chapter, addressing questions about ASD, providing information that specifically mentioned adults, and suggesting additional resources for further information.

Autism Society Affiliate by State	Contact Information	ASD Information	Adult Service Information	Additional Resources
Texas				
Autism Society El Paso	E	S	P	S
Autism Society Greater Austin	E	S	P	E
Autism Society Texas Gulf Coast	E	S	P	P
Louisiana				
Autism Society Acadiana	E	E	E	E
Autism Society Bayou	S	E	E	E
Autism Society Greater Baton Rouge	S	S	P	E
Autism Society New Orleans	E	S	P	S
Autism Society Louisiana State	S	S	P	E
Autism Society Northwest Louisiana	E	S	P	E
Autism Society Southwest Louisiana	S	S	P	E
Alabama				
Autism Society Alabama	E	S	P	E
Tennessee				
Autism Society Eastern Tennessee	E	E	P	S
Autism Society Middle Tennessee	NA	NA	NA	NA
Kentucky				
Autism Society Bluegrass	P	S	S	E
Autism Society Kentuckiana	E	S	P	E
Georgia				
Autism Society Greater Georgia	P	E	E	E
Autism Society North Eastern Georgia	E	P	P	S
Florida				
Autism Society Broward County	P	P	S	S

Autism Society Emerald Coast Society	E	P	S	E
Autism Society Florida	S	P	P	E
Autism Society Miami Dade Office	NA	NA	NA	NA
Autism Society Palm Beach/Martin County	S	S	P	E
South Carolina				
Autism Society South Carolina	E	E	S	E
North Carolina				
Autism Society North Carolina	E	E	E	E
Virginia				
Autism Society Central Virginia	E	S	P	E
Autism Society Northern Virginia	E	S	S	E
Autism Society Tidewater	E	S	P	
Maryland				
Autism Society Baltimore-Chesapeake	E	S	E	E
Autism Society Frederick County	E	P	P	P
Autism Society Harford County	E	S	P	E
Autism Society Howard County	E	S	P	E
Autism Society Montgomery County	S	S	S	E
Washington DC				
Autism Society Washington DC	E	S	S	E
West Virginia				
Autism Society River Cities	E	S	P	S
Autism Society West Virginia	E	S	P	E

Table A.3: Individual website scores for standards in the Information on Advocacy and Outreach category. Standards include information on other autism agencies, support group information, provisions of current research related to ASD, and printable brochures or pamphlets provided by the chapter.

Autism Society Affiliate by State	Information Autism Agencies	Support Groups	Current Research	Printable Pamphlets or Brochures
Texas				
Autism Society El Paso	S	P	P	P
Autism Society Greater Austin	E	E	E	E
Autism Society Texas Gulf Coast	S	P	S	P
Louisiana				
Autism Society Acadiana	E	E	P	E
Autism Society Bayou	E	S	S	S
Autism Society Greater Baton Rouge	E	E	P	P
Autism Society New Orleans	E	E	P	P
Autism Society Louisiana State	E	S	P	P
Autism Society Northwest Louisiana	E	E	E	P
Autism Society Southwest Louisiana	E	S	P	P
Alabama				
Autism Society Alabama	E	P	P	P
Tennessee				
Autism Society Eastern Tennessee	P	E	P	P
Autism Society Middle Tennessee	NA	NA	NA	NA
Kentucky				
Autism Society Bluegrass	E	S	S	P
Autism Society Kentuckiana	E	E	S	P
Georgia				
Autism Society Greater Georgia	E	E	P	P
Autism Society North Eastern Georgia	P	P	P	P
Florida				
Autism Society Broward County	P	E	P	P

Autism Society Emerald Coast Society	E	E	P	P
Autism Society Florida	E	P	P	P
Autism Society Miami Dade Office	NA	NA	NA	NA
Autism Society Palm Beach/Martin County	E	P	P	P
South Carolina				
Autism Society South Carolina	E	P	E	P
North Carolina				
Autism Society North Carolina	E	E	E	P
Virginia				
Autism Society Central Virginia	E	E	P	P
Autism Society Northern Virginia	E	P	P	
Autism Society Tidewater	E	P	P	P
Maryland				
Autism Society Baltimore-Chesapeake	E	S	P	P
Autism Society Frederick County	P	P	P	P
Autism Society Harford County	E	P	E	P
Autism Society Howard County	E	E	E	P
Autism Society Montgomery County	E	S	P	P
Washington DC				
Autism Society Washington DC	E	P	P	P
West Virginia				
Autism Society River Cities	S	P	P	P
Autism Society West Virginia	E	P	S	P